

### **ABSTRACT OF THE DISCLOSURE**

A device includes a carrier element with a surface prepared for direct or indirect coupling or receiving of cells, at least one optical detector to receive a luminescence signal, the detector being integrated into the carrier element below the prepared surface, a cover covering the prepared surface to form a cavity, the cover having an inlet opening and an outlet opening, and an excitation source connected to the inlet opening. The excitation source constitutes a reservoir for a chemical or biological excitation substance or medium that influences the metabolism of the cell, with metabolic processes being made visible by luminescence and detected by at least one optical detector.